

CLAIMS

That which is claimed is:

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1. A vacuum processing system, comprising:
a circular transfer chamber; and
a lid mounted on the transfer chamber wherein the lid has a curved
configuration such that an edge of the lid is sealed to an edge of the transfer chamber and
the lid is curved such that a center of the lid gradually increases its distance both
horizontally and vertically from the edge of the transfer chamber.

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2. The vacuum processing system of claim 1, wherein the lid has a convex
configuration such that the lid center is vertically closer to an inside area of the transfer
chamber as compared to an edge of the lid.

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15 3. The vacuum processing system of claim 1, wherein the lid has a concave
configuration such that the lid center is vertically further from an inside area of the
transfer chamber a compared to an edge of the lid.

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4. The vacuum processing system of claim 1, further comprising:
a transparent window element positioned between an edge of the lid and
edge of the transfer chamber.

5. The vacuum processing system of claim 1, wherein the lid comprises a
plurality of windows positioned within the domed portion of the lid.

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6. The vacuum processing system of claim 1, wherein the lid is comprised of
a metal selected from the group consisting of copper, aluminum, and steel.

7. The vacuum processing system of claim 1, wherein the lid is comprised of
stainless steel.

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8. The vacuum processing system of claim 7, wherein the lid is constructed by
spinning.

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9. The vacuum processing system of claim 8, wherein the lid is electro-
polished following spinning.

10. The lid of claim 1, wherein the lid further comprises a structural feature for absorbing stress to the lid.

11. The vacuum processing system of claim 1, wherein the structural feature is
5 an "S" transition.

12. The vacuum processing system of claim 1, wherein the lid further comprises one or more diagnostic devices.

10 13. The vacuum processing system of claim 1, wherein the lid further comprises one or more processing devices.

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15 14. A vacuum processing system, comprising
a transfer chamber having a domed lid; and
one or more process chambers attached to the transfer chamber.

15. The vacuum processing system of claim 11, wherein the system further comprises a substrate mover for transferring the substrate within the transfer chamber.

20 16. A method of fabricating a domed lid for a transfer chamber of a vacuum processing system, said method comprising:
spinning a material to form a domed shape of desired diameter.

25 17. The method of claim 16, wherein the domed lid is further processed following spinning to remove contaminating particles.

18. The method of claim 17, wherein the domed lid is processed by electro-polishing.

30 19. The method of claim 16, wherein the material is a metal.

20. The method of claim 19, wherein the metal is stainless steel.

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